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 NEWS  1          Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2  Dec 17  The CA Lexicon available in the CAPLUS and CA files
 NEWS  3  Feb 06  Engineering Information Encompass files have new names
 NEWS  4  Feb 16  TOXLINE no longer being updated
 NEWS  5  Apr 23  Search Derwent WPINDEX by chemical structure
 NEWS  6  Apr 23  PRE-1967 REFERENCES NOW SEARCHABLE IN CAPLUS AND CA
 NEWS  7  May 07  DGENE Reload
 NEWS  8  Jun 20  Published patent applications (A1) are now in USPATFULL

 NEWS EXPRESS  May 23 CURRENT WINDOWS VERSION IS V6.0a,
               CURRENT MACINTOSH VERSION IS V5.0C (ENG) AND V5.0JB (JP),
               AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2001
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 NEWS INTER    General Internet Information
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FILE 'HOME' ENTERED AT 16:57:30 ON 01 JUL 2001

=> file biosis caplus embase medline cancerlit

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FULL ESTIMATED COST                                     0.15       0.15

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FILE 'CANCERLIT' ENTERED AT 16:57:43 ON 01 JUL 2001

=> s (ox? LDL)

   4 FILES SEARCHED...
L1         7898 (OX? LDL)

=> s l1 and antibod?

L2         1341 L1 AND ANTIBOD?

=> s l2 and fibrinogen

L3           22 L2 AND FIBRINOGEN

=> s l2 and plasminogen

L4            3 L2 AND PLASMINOGEN
```

TI Method for detecting low density lipoprotein (LDL) or denatured LDL in blood

IN Uchida, Kazuo; Mashiba, Shinichi
PA Ikagaku Co., Ltd., Japan

SO Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DT Patent
LA English
IC G01N033-92; C07K016-18
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 14, 15
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1070962	A2	20010124	EP 2000-114984	20000720
	EP 1070962	A3	20010523		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001091517	A2	20010406	JP 2000-12210	20000120
PRAI	JP 1999-207913	A	19990722		
	JP 2000-12210	A	20000120		

AB A novel method for detecting LDL and denatured LDL (particularly, **oxidized LDL**) having a significant concern with the onset and progression of arteriosclerosis and Alzheimer's disease is provided, wherein a complex of denatured LDL (particularly, **oxidized LDL**) with an acute phase reactant, blood coagulation-fibrinolytic-related protein or disinfectant substance produced by macrophage is used as a measuring subject. Human LDL free of .alpha.1 antitrypsin and human fibronectin were treated with a copper sulfate soln. at 37.degree. over night to form an **oxidized LDL**-fibronectin complex. The complex was used as an immunogen in a mouse from which monoclonal **antibodies** were prepd. for use in assaying for the complex.

ST LDL lipoprotein detection blood; acute phase reactant denatured LDL detection; blood coagulation fibrinolytic related protein **oxidized LDL** detection; monoclonal **antibody oxidized LDL** fibronectin complex immunoassay

IT Apolipoproteins
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(B, **antibody** to human; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Proteins, specific or class
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(C-reactive, complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Collagens, biological studies
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(LDL bonding to; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Diabetes mellitus
(LDL-**fibrinogen** complex in; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(Lp(a), complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Proteins, specific or class
RL: ANT (Analyte); BPR (Biological process); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(SAA (serum amyloid A), complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Glycoproteins, specific or class
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(SAP (serum amyloid, P), complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Proteins, specific or class
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST

denatured LDL in blood)

IT Fibronectins
RL: ANT (Analyte); BPR (Biological process); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Complement
Fibrinogens
Lactoferrins
.alpha.1-Acid glycoprotein
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Enzymes, biological studies
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(conjugates, with **antibodies**; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Artery, disease
(coronary, **oxidized LDL** complexes in; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Macrophage
(disinfectant substance produced by, complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Immunoassay
(enzyme-linked immunosorbent assay; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Immunoassay
(enzyme; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Immunoassay
(immunoadsorption chromatog.; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT **Antibodies**
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(labeled; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Immunoassay
(latex agglutination test, latex flocculation; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); BPR (Biological process); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(low-d., complexes; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(low-d., denatured; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(low-d., oxidized; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); BPR (Biological process); RCT (Reactant); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(low-d.; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Disinfectants
(macrophage-produced, complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Alzheimer's disease
Arteriosclerosis
Blood analysis

IT Macroglobulins
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(.alpha.2-, complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)
IT 9000-94-6D, Antithrombin, complexes with LDL or denatured LDL
9001-26-7D, Prothrombin, complexes with LDL or denatured LDL 9001-63-2D, **Lysozyme**, complexes with LDL or denatured LDL 9001-91-6D, **Plasminogen**, complexes with LDL or denatured LDL 9002-04-4D, Thrombin, complexes with LDL or denatured LDL 9003-99-0D, Myeloperoxidase, complexes with LDL or denatured LDL 9035-58-9D, Blood-coagulation factor III, complexes with LDL or denatured LDL
9041-92-3D, .alpha.1-Antitrypsin, complexes with LDL or denatured LDL
140208-23-7D, **Plasminogen** activator inhibitor 1, complexes with LDL or denatured LDL 141176-92-3D, .alpha.1-Antichymotrypsin, complexes with LDL or denatured LDL
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

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(FILE 'HOME' ENTERED AT 16:57:30 ON 01 JUL 2001)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT' ENTERED AT 16:57:43 ON 01 JUL 2001

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L1          7898 S (OX? LDL)
L2          1341 S L1 AND ANTIBOD?
L3            22 S L2 AND FIBRINOGEN
L4             3 S L2 AND PLASMINOGEN
L5             4 S L2 AND LYSOZYME
L6             1 S L3 AND L4
L7             1 S L6 AND L5
```

=> d l3 1-22 all

L3 ANSWER 1 OF 22 BIOSIS COPYRIGHT 2001 BIOSIS
AN 2001:126543 BIOSIS
DN PREV200100126543
TI Circulating **antibodies** recognizing malondialdehyde-modified proteins in healthy subjects.
AU Vay, Daria; Parodi, Monica; Rolla, Roberta; Mottaran, Elisa; Vidali, Matteo; Bellomo, Giorgio; Albano, Emanuele (1)
CS (1) Department of Medical Science, University "Amedeo Avogadro" of East Piedmont, Via Solaroli 17, 28100, Novara: albano@med.unipmn.it Italy
SO Free Radical Biology & Medicine, (February 1, 2001) Vol. 30, No. 3, pp. 277-286. print.
ISSN: 0891-5849.
DT Article
LA English
SL English
AB **Antibodies** against malondialdehyde (MDA)-modified proteins are often increased in patients with diseases related to oxidative stress. However, the clinical significance of these **antibodies** is hampered by their frequent presence also in healthy controls. Aim of this work has been to characterize the immune reactivity against MDA-derived antigens in healthy subjects. The sera of 120 healthy subjects contained IgG and IgM targeting MDA-modified human albumin (HSA), **fibrinogen**, and LDL. These sera also displayed weak reactivity with **oxidized LDL** and HSA complexed with oxidized arachidonic acid. Conversely, oxidized HSA or HSA complexed with other aldehydic lipid peroxidation products was not recognized. Control sera also did not recognize cyclic dihydropyridine-MDA products, while HSA-MDA reactivity was associated ($r > 0.9$; $p < .0005$) with the presence of fluorescent lysine-conjugated-imine cross-links. In Western blots both IgG and IgM recognized high molecular weight HSA-MDA aggregates, but not monomeric HSA-MDA adducts. The addition of sodium cyanoborohydride, that prevented conjugated-imine fluorescence and protein aggregation during HSA-MDA preparation, abolished the

Animals; Chordates; Humans; Mammals; Primates; Vertebrates

L3 ANSWER 2 OF 22 BIOSIS COPYRIGHT 2001 BIOSIS
AN 2000:182457 BIOSIS
DN PREV200000182457
TI Homocysteine and oxidized low density lipoprotein enhance platelet adhesion to endothelial cells under flow conditions: Distinct mechanisms of thrombogenic modulation.
AU Dardik, R. (1); Varon, D.; Tamarin, I.; Zivelin, A.; Salomon, O.; Shenkman, B.; Savion, N.
CS (1) Sheba Medical Center, National Hemophilia Center and Institute of Thrombosis and Hemostasis, Tel Hashomer, 52621 Israel
SO Thrombosis and Haemostasis, (Feb., 2000) Vol. 83, No. 2, pp. 338-344. ISSN: 0340-6245.
DT Article
LA English
SL English
AB We investigated the effects of two well established risk factors for cardiovascular disease, homocysteine and oxidized low density lipoprotein (**ox-LDL**), on endothelial cell thrombogenicity. For this purpose we studied platelet adhesion to human endothelial cells (EC) under flow conditions at a shear rate of 350 s-1 following EC treatment with either homocysteine or **ox-LDL**. Treatment of EC with either homocysteine (1 or 10 mmol/L for 16 h) or **ox-LDL** (100 mug/ml for 16 h) resulted in a 2-3 fold enhancement in platelet adhesion. The enhancement in platelet adhesion induced by 1 mmol/L homocysteine, but not that induced by 10 mmol/L homocysteine, was absolutely dependent on fibrin formation. Homocysteine treatment has significantly increased the cell surface tissue factor (TF) activity and slightly reduced the expression of the intercellular adhesion molecule I (ICAM-1). In contrast, **ox-LDL** treatment upregulated ICAM-1 expression and had no significant effect on endothelial TF activity. Neither homocysteine nor **Ox-LDL** affected surface expression of the alphavbeta3 integrin. The homocysteine-induced enhancement in platelet adhesion was almost completely abolished by blockade of the EC TF activity by a polyclonal **antibody**. The enhancing effect of homocysteine was also greatly reduced by inhibition of the EC alphavbeta3 integrin, but was not affected by blockade of EC ICAM-1. On the other hand, **ox-LDL**-induced enhancement in platelet - EC adhesion was greatly inhibited by blocking ICAM-1 or alphavbeta3, but remained unaffected by inhibition of TF activity. Preincubation of platelets with the glycoprotein IIb-IIIa (GPIIb-IIIa) antagonist Reo-Pro has virtually abolished the enhancing effect of both homocysteine and **ox-LDL**. Our results suggest that homocysteine and **ox-LDL** might increase endothelial thrombogenicity by distinct mechanisms: homocysteine - by inducing TF activity, and **ox-LDL** - by upregulating ICAM-1, both of which enhance GPIIb-IIIa/**fibrinogen** dependent platelet adhesion to EC. The alphavbeta3 integrin, although not affected by EC stimulation, seems to play a crucial role in platelet-EC interaction regardless of the mechanism of EC perturbation.
CC Cardiovascular System - General; Methods *14501
Cytology and Cytochemistry - Human *02508
Blood, Blood-Forming Organs and Body Fluids - General; Methods *15001
Biochemical Studies - General *10060
IT Major Concepts
Cardiovascular Medicine (Human Medicine, Medical Sciences); Hematology (Human Medicine, Medical Sciences)
IT Parts, Structures, & Systems of Organisms
endothelial cells: thrombogenicity; platelet: blood and lymphatics
IT Chemicals & Biochemicals
alpha-V-beta-3 integrin; fibrin; **fibrinogen**; glycoprotein IIb-IIIa; homocysteine; intercellular adhesion molecule-1; oxidized low-density lipoprotein; tissue factor
IT Miscellaneous Descriptors
platelet adhesion
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

SL English

AB Although important roles of dietary n-3 fatty acids in the prevention of coronary heart disease (CHD) have been suggested, long-term effects of dietary alpha-linolenic acid (ALA, 18:3n-3) have not yet been established under controlled conditions. We tested whether a moderate increase of dietary ALA affects fatty acids composition in serum and the risk factors of CHD. **Oxidized LDL** (OxLDL) was directly measured by ELISA using **antibody** specific to OxLDL. By merely replacing soybean cooking oil (SO) with perilla oil (PO) (i.e., increasing 3 g/d of ALA), the n-6/n-3 ratio in the diet was changed from 4: 1 to 1 : 1. Twenty Japanese elderly subjects were initially given a SO diet for at least 6 mo (baseline period), a PO diet for 10 mo (intervention period), and then returned to the previous SO diet (washout period). ALA in the total serum lipid increased from 0.8 to 1.6% after 3 mo on the PO diet, but EPA and DHA increased in a later time, at 10 mo after the PO diet, from 2.5 to 3.6% and 5.3 to 6.4%, respectively ($p < 0.05$), and then returned to baseline in the washout period. In spite of increases of serum n-3 fatty acids, the OxLDL concentration did not change significantly when given the PO diet. Body weight, total serum cholesterol, triacylglycerol, glucose, insulin and HbA1c concentrations, platelet count and aggregation function, prothrombin time, partial thromboplastin time, **fibrinogen** and PAI-1 concentration, and other routine blood analysis did not change significantly when given the PO diet. These data indicate that, even in elderly subjects, a 3 g/d increase of dietary ALA could increase serum EPA and DHA in 10 mo without any major adverse effects.

CC Nutrition - General Studies, Nutritional Status and Methods *13202
Physical Anthropology; Ethnobiology *05000
Food Technology - General; Methods *13502
Gerontology *24500
Cardiovascular System - General; Methods *14501
Biochemical Studies - General *10060

IT Major Concepts
Nutrition

IT Diseases
coronary heart disease: heart disease

IT Chemicals & Biochemicals
alpha-linolenic acid: dietary intake; docosahexanoic acid: serum; eicosapentanoic acid: serum; n-3 fatty acids: serum; **oxidized LDL** [oxidized low density lipoprotein]

IT Alternate Indexing
Coronary Disease (MeSH)

IT Miscellaneous Descriptors
perilla oil: fats and oils

ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
human (Hominidae): Japanese, elderly

ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

RN 463-40-1 (ALPHA-LINOLENIC ACID)

L3 ANSWER 4 OF 22 BIOSIS COPYRIGHT 2001 BIOSIS

AN 1998:175330 BIOSIS

DN PREV199800175330

TI 3-nitrotyrosine in the proteins of human plasma determined by an ELISA method.

AU Khan, Jamshad; Brennan, David M.; Bradley, Nicholas; Gao, Beirong; Bruckdorfer, Richard; Jacobs, Michael (1)

CS (1) Dep. Pharmacol., Royal Free Hosp. Sch. Med., Rowland Hill St., London NW3 2PF UK

SO Biochemical Journal, (March 1, 1998) Vol. 330, No. 2, pp. 795-801. ISSN: 0264-6021.

DT Article

LA English

AB The modification of tyrosine residues in proteins to 3-nitrotyrosine by peroxynitrite or other potential nitrating agents has been detected in biological systems that are subject to oxidative stress. A convenient semi-quantitative method has been developed to assay nitrated proteins in biological fluids and homogenates using a competitive ELISA developed in our laboratory. This assay selectivity detected 3-nitro-L-tyrosine residues in a variety of peroxynitrite-treated proteins (BSA, human serum albumin (HSA), alpha1-antiprotease inhibitor, pepsinogen and

CC . Biochemical Studies - General *10060
Biophysics - General Biophysical Studies *10502
Enzymes - General and Comparative Studies; Coenzymes *10802
Blood, Blood-Forming Organs and Body Fluids - General; Methods *15001
Immunology and Immunochemistry - General; Methods *34502
BC Hominidae 86215
IT Major Concepts
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation)
IT Parts, Structures, & Systems of Organisms
plasma: blood and lymphatics
IT Chemicals & Biochemicals
peroxynitrite; protein; BSA [bovine serum albumin]; LDL [low density lipoprotein]; 3-nitrotyrosine
IT Methods & Equipment
ELISA: determination method
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates
RN 3604-79-3 (3-NITROTYROSINE)
19059-14-4 (PEROXYNITRITE)

L3 ANSWER 5 OF 22 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1997:105982 BIOSIS
DN PREV199799405185
TI Platelet integrin alpha-IIb-beta-3 (GPIIb-IIIa) is not implicated in the binding of LDL to intact resting platelets.
AU Pedreno, Javier (1); Fernandez, Rosa; Cullare, Cristina; Barcelo, Antonia; Elorza, Miguel Angel; De Castellarnau, Conxita
CS (1) Fundacio Invest. Cardiovasc., Hosp. Santa Creu Sant Pau, Avenida San Antonio Maria Claret 167, 08025 Barcelona Spain
SO Arteriosclerosis Thrombosis and Vascular Biology, (1997) Vol. 17, No. 1, pp. 156-163.
ISSN: 1079-5642.
DT Article
LA English
AB It has been suggested that the **fibrinogen** receptor (glycoprotein (GP) IIb-IIIa or platelet integrin alpha-IIb-beta-3) could be the binding site for low-density lipoprotein (LDL); however, recent data do not support this. Furthermore, GPIIb and not the GPIIb-IIIa complex is the main binding protein for lipoprotein(a) (Lp(a)). In the present study, we have investigated the interaction between Lp(a) particles and platelet LDL binding sites and whether platelet integrin alpha-IIb-beta-3 is implicated. Displacement experiments showed that 125I-LDL binding to intact resting platelets was inhibited with the same apparent affinity by both unlabeled LDL and apolipoprotein(a)-free lipoprotein particles (Lp(a)-, an LDL-like particle prepared from Lp(a)). Hill coefficients for displacement curves suggested that a single set of binding sites was involved. In contrast, both native and oxidized Lp(a) particles were unable to inhibit platelet LDL binding. Furthermore, platelets bound 125I-Lp(a)- particles to a class of saturable binding sites numbering approximately 1958+-235 binding sites per platelet with a dissociation constant (K-d) of 48.3+-12 times 10-9 mol/L. These values were similar to those obtained for LDL. In contrast to Lp(a), evidence indicates that platelet integrin alpha-IIb-beta-3 was not involved in the interaction of LDL and intact resting platelets. First, specific ligands for platelet integrin alpha-IIb-beta-3, such as **fibrinogen**, vitronectin, and fibronectin, were unable to inhibit the binding of LDL to intact resting platelets. Second, similar LDL binding characteristics (K-d and B-max values) were found in platelets from control subjects and patients with type I and type II Glanzmann's thrombasthenia, characterized by total and partial lack of GPIIb-IIIa and **fibrinogen**, respectively. Third, polyclonal **antibodies** against the GPIIb-IIIa complex (edu-3 and 5B12), human antiserums against platelet alloantigens (anti-Bak-a/B and anti-PL-A1/2), anti-integrin subunits (anti-alpha-v and anti-beta-3), and a wide panel of monoclonal **antibodies** (mAbs) against well-known epitopes of GPIIb (M3, M4, M5, M6, and M95-2b) and GPIIIa (P23-7, P33, P37, P40, and P97) did not affect platelet LDL binding. Finally, in contrast to the proaggregatory effect of native and **oxidized**

Metabolism - Lipids *13006
Metabolism - Proteins, Peptides and Amino Acids *13012
Cardiovascular System - Physiology and Biochemistry *14504
Cardiovascular System - Blood Vessel Pathology *14508
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies *15002
Blood, Blood-Forming Organs and Body Fluids - Blood Cell Studies *15004
Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies *15006

BC Hominidae *86215

IT Major Concepts
Biochemistry and Molecular Biophysics; Bioenergetics (Biochemistry and Molecular Biophysics); Blood and Lymphatics (Transport and Circulation); Cardiovascular Medicine (Human Medicine, Medical Sciences); Cardiovascular System (Transport and Circulation); Cell Biology; Hematology (Human Medicine, Medical Sciences); Membranes (Cell Biology); Metabolism

IT Chemicals & Biochemicals
INTEGRIN

IT Miscellaneous Descriptors
ATHEROSCLEROSIS; BINDING; BIOCHEMISTRY AND BIOPHYSICS; BLOOD AND LYMPHATICS; **FIBRINOGEN** RECEPTOR; INTACT RESTING PLATELETS; LDL; LDL BINDING SITES; LIPOPROTEIN; LIPOPROTEIN(A); LOW-DENSITY LIPOPROTEIN; LOW-DENSITY LIPOPROTEIN BINDING SITES; OXIDATION; OXIDIZED LIPOPROTEINS; PLATELET GLYCOPROTEIN IIB-IIIA; PLATELET GPIIB-IIIA; PLATELET INTEGRIN-ALPHA-IIB,BETA-3; VASCULAR DISEASE

ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
human (Hominidae)

ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates

RN 153-87-7Q (INTEGRIN)
60791-49-3Q (INTEGRIN)

L3 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2001 ACS
AN 2001:93225 CAPLUS
DN 134:264876
TI Circulating **antibodies** recognizing malondialdehyde-modified proteins in healthy subjects
AU Vay, D.; Parodi, M.; Rolla, R.; Mottaran, E.; Vidali, M.; Bellomo, G.; Albano, E.
CS Department of Medical Sciences, University "Amedeo Avogadro" of East Piedmont, Novara, Italy
SO Free Radical Biol. Med. (2001), 30(3), 277-286
CODEN: FRBMEH; ISSN: 0891-5849
PB Elsevier Science Inc.
DT Journal
LA English
CC 15-3 (Immunochemistry)

AB **Antibodies** against malondialdehyde (MDA)-modified proteins are often increased in patients with diseases related to oxidative stress. However, the clin. significance of these **antibodies** is hampered by their frequent presence also in healthy controls. Aim of this work has been to characterize the immune reactivity against MDA-derived antigens in healthy subjects. The sera of 120 healthy subjects contained IgG and IgM targeting MDA-modified human albumin (HSA), **fibrinogen**, and LDL. These sera also displayed weak reactivity with **oxidized LDL** and HSA complexed with oxidized arachidonic acid. Conversely, oxidized HSA or HSA complexed with other aldehydic lipid peroxidn. products was not recognized. Control sera also did not recognize cyclic dihydropyridine-MDA products, while HSA-MDA reactivity was assocd. ($r > 0.9$; $p < .0005$) with the presence of fluorescent lysine-conjugated-imine cross-links. In Western blots both IgG and IgM recognized high mol. wt. HSA-MDA aggregates, but not monomeric HSA-MDA adducts. The addn. of sodium cyanoborohydride, that prevented conjugated-imine fluorescence and protein aggregation during HSA-MDA prepn., abolished the **antibody** binding. This suggested that the plasma of healthy subjects contained IgG and IgM recognizing protein aggregates linked through 1-amino-3-imino-propene bridges. The function of these **antibodies** is at the moment unknown, but they might contribute to scavenging MDA cross-linked proteins.

(low-d., malondialdehyde-modified; circulating **antibodies** recognizing malondialdehyde-modified proteins in healthy humans)

IT Lipoproteins
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(low-d., oxidized, malondialdehyde-modified; circulating **antibodies** recognizing malondialdehyde-modified proteins in healthy humans)

IT Albumins, biological studies
Fibrinogens
Proteins, specific or class
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(malondialdehyde-modified; circulating **antibodies** recognizing malondialdehyde-modified proteins in healthy humans)

IT Lipids, biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(peroxidn.; circulating **antibodies** recognizing malondialdehyde-modified proteins in healthy humans in relation to)

IT 506-32-1D, Arachidonic acid, oxidized
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(malondialdehyde-modified; circulating **antibodies** recognizing malondialdehyde-modified proteins in healthy humans)

RE.CNT 38

RE

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L3 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2001 ACS
AN 2001:62437 CAPLUS
DN 134:97520
TI Method for detecting low density lipoprotein (LDL) or denatured LDL in blood

IN Uchida, Kazuo; Mashiba, Shinichi
PA Ikagaku Co., Ltd., Japan

SO Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DT Patent
LA English

oxidized LDL) with an acute phase reactant, blood coagulation-fibrinolytic-related protein or disinfectant substance produced by macrophage is used as a measuring subject. Human LDL free of .alpha.1 antitrypsin and human fibronectin were treated with a copper sulfate soln. at 37.degree. over night to form an **oxidized LDL**-fibronectin complex. The complex was used as an immunogen in a mouse from which monoclonal **antibodies** were prepd. for use in assaying for the complex.

ST LDL lipoprotein detection blood; acute phase reactant denatured LDL detection; blood coagulation fibrinolytic related protein **oxidized LDL** detection; monoclonal **antibody oxidized LDL** fibronectin complex immunoassay

IT Apolipoproteins
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(B, **antibody** to human; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Proteins, specific or class
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(C-reactive, complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Collagens, biological studies
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(LDL bonding to; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Diabetes mellitus
(LDL-**fibrinogen** complex in; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(Lp(a), complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Proteins, specific or class
RL: ANT (Analyte); BPR (Biological process); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(SAA (serum amyloid A), complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Glycoproteins, specific or class
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(SAP (serum amyloid, P), complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Proteins, specific or class
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(acute-phase, complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(arteriosclerosis-assocd.; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Proteins, specific or class
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(basic, complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Proteins, specific or class
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(blood coagulation-fibrinolytic-related, complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Fibronectins
RL: ANT (Analyte); BPR (Biological process); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Complement

LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Immunoassay
(enzyme-linked immunosorbent assay; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Immunoassay
(enzyme; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Immunoassay
(immunoadsorption chromatog.; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT **Antibodies**
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(labeled; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Immunoassay
(latex agglutination test, latex flocculation; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); BPR (Biological process); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(low-d., complexes; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(low-d., denatured; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(low-d., oxidized; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Lipoproteins
RL: ANT (Analyte); BPR (Biological process); RCT (Reactant); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(low-d.; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Disinfectants
(macrophage-produced, complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Alzheimer's disease
Arteriosclerosis
Blood analysis
Hybridoma
Immunoassay
(method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT **Antibodies**
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT **Antibodies**
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(monoclonal, to LDL-fibronectin complex; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Disease, animal
(syndrome X, LDL-**fibrinogen** complex in; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT Macroglobulins
RL: ANT (Analyte); BPR (Biological process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(.alpha.2-, complexes with LDL or denatured LDL; method for detecting low d. lipoprotein (LDL) or denatured LDL in blood)

IT 9000-94-6D, Antithrombin, complexes with LDL or denatured LDL
9001-26-7D, Prothrombin, complexes with LDL or denatured LDL 9001-63-2D, Lysozyme, complexes with LDL or denatured LDL 9001-91-6D, Plasminogen,

of thrombogenic modulation

AU Dardik, R.; Varon, D.; Tamarin, I.; Zivelin, A.; Salomon, O.; Shenkman, B.; Savion, N.

CS National Hemophilia Center, Sheba Medical Center, Tel Hashomer, 52621, Israel

SO Thromb. Haemostasis (2000), 83(2), 338-344
CODEN: THHADQ; ISSN: 0340-6245

PB F. K. Schattauer Verlagsgesellschaft mbH

DT Journal

LA English

CC 14-5 (Mammalian Pathological Biochemistry)

AB The authors investigated the effects of 2 the authors ll established risk factors for cardiovascular disease, homocysteine and oxidized low d. lipoprotein (**ox-LDL**), on endothelial cell thrombogenicity. For this purpose the authors studied platelet adhesion to human endothelial cells (EC) under flow conditions at a shear rate of 350 s-1 following EC treatment with either homocysteine or **ox-LDL**. Treatment of EC with either homocysteine (1 or 10 mmol/L for 16 h) or **ox-LDL** (100 .mu.g/mL for 16 h) resulted in a 2-3-fold enhancement in platelet adhesion. The enhancement in platelet adhesion induced by 1 mmol/L homocysteine, but not that induced by 10 mmol/L homocysteine, was absolutely dependent on fibrin formation. Homocysteine treatment has significantly increased the cell surface tissue factor (TF) activity and slightly reduced the expression of the intercellular adhesion mol. I (ICAM-1). In contrast, **ox-LDL** treatment upregulated ICAM-1 expression and had no significant effect on endothelial TF activity. Neither homocysteine nor **Ox-LDL** affected surface expression of the .alpha.v.beta.3 integrin. The homocysteine-induced enhancement in platelet adhesion was almost completely abolished by blockade of the EC TF activity by a polyclonal **antibody**. The enhancing effect of homocysteine was also greatly reduced by inhibition of the EC .alpha.v.beta.3 integrin, but was not affected by blockade of EC ICAM-1. On the other hand, **ox-LDL**-induced enhancement in platelet-EC adhesion was greatly inhibited by blocking ICAM-1 or .alpha.v.beta.3, but remained unaffected by inhibition of TF activity. Preincubation of platelets with the glycoprotein IIb-IIIa (GPIIb-IIIa) antagonist Reo-Pro has virtually abolished the enhancing effect of both homocysteine and **ox-LDL**. These results suggest that homocysteine and **ox-LDL** might increase endothelial thrombogenicity by distinct mechanisms: homocysteine - by inducing TF activity, and **ox-LDL** - by upregulating ICAM-1, both of which enhance GPIIb-IIIa/ **fibrinogen** dependent platelet adhesion to EC. The .alpha.v.beta.3 integrin, although not affected by EC stimulation, seems to play a crucial role in platelet-EC interaction regardless of the mechanism of EC perturbation.

ST homocysteine oxLDL platelet adhesion endothelium thrombosis; low density lipoprotein oxidized ICAM1 platelet adhesion endothelium thrombosis; tissue factor homocysteine platelet adhesion endothelium thrombosis; GPIIbIIIa **fibrinogen** platelet adhesion endothelium thrombosis homocysteine oxLDL

IT Cell adhesion molecules
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BIOL (Biological study); PROC (Process)
(ICAM-1 (intercellular adhesion mol. 1); **ox-LDL** increased endothelial thrombogenicity via ICAM-1 enhancing GPIIb-IIIa/ **fibrinogen** dependent platelet adhesion)

IT Platelet (blood)
(adhesion; homocysteine and **ox-LDL** increased endothelial thrombogenicity via TF and ICAM-1 enhancing GPIIb-IIIa/ **fibrinogen** dependent platelet adhesion)

IT Blood vessel
(endothelium; homocysteine and **ox-LDL** increased endothelial thrombogenicity via TF and ICAM-1 enhancing GPIIb-IIIa/ **fibrinogen** dependent platelet adhesion)

IT Thrombosis
(homocysteine and **ox-LDL** increased endothelial thrombogenicity via TF and ICAM-1 enhancing GPIIb-IIIa/ **fibrinogen** dependent platelet adhesion)

IT **Fibrinogens**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BIOL (Biological study); PROC (Process)

(homocysteine and **ox-LDL** increased endothelial thrombogenicity via TF enhancing GPIIb-IIIa/**fibrinogen** dependent platelet adhesion)

IT 9035-58-9, Blood-coagulation factor III
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BIOL (Biological study); PROC (Process)
(homocysteine increased endothelial thrombogenicity via TF enhancing GPIIb-IIIa/**fibrinogen** dependent platelet adhesion)

RE.CNT 30
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L3 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2001 ACS
AN 1998:226448 CAPLUS
DN 128:305846
TI 3-Nitrotyrosine in the proteins of human plasma determined by an ELISA method

AU Khan, Jamshad; Brennand, David M.; Bradley, Nicholas; Gao, Beirong; Bruckdorfer, Richard; Jacobs, Michael
CS Department of Pharmacology, Royal Free Hospital School of Medicine, London, NW3 2PF, UK

SO Biochem. J. (1998), 330(2), 795-801
CODEN: BIJOAK; ISSN: 0264-6021
PB Portland Press Ltd.
DT Journal
LA English

CC 9-10 (Biochemical Methods)

AB The modification of tyrosine residues in proteins to 3-nitrotyrosine by peroxynitrite or other potential nitrating agents has been detected in biol. systems that are subject to oxidative stress. A convenient semi-quant. method has been developed to assay nitrated proteins in biol. fluids and homogenates using a competitive ELISA developed in our lab. This assay selectivity detected 3-nitro-L-tyrosine residues in a variety of peroxynitrite-treated proteins (BSA, human serum albumin (HSA), .alpha.1-antiprotease inhibitor, pepsinogen and **fibrinogen**) and also in a nitrated peptide, but had a low affinity for free 3-nitro-L-tyrosine and 3-chloro-L-tyrosine. The IC50 values for the inhibition of **antibody** binding by different nitrated proteins were in the range 5-100 nM, suggesting that the **antibody** discriminated between nitrotyrosine residues in different environments. The presence of nitrotyrosine in plasma proteins was detected by Western blot anal. and quantified by the ELISA. A concn. of 0.12.+-.0.01 .mu.M nitro-BSA equiv. was measured in the proteins of normal plasma which was increased in peroxynitrite-treated plasma and was elevated in inflammatory

conditions. HSA and low-d. lipoprotein (LDL) isolated from plasma contained 0.085.+-.0.04 and 0.03.+-.0.006 nmol nitro-BSA equiv./mg protein, resp. Comparison of the level of nitration in peroxynitrite-treated HSA and LDL in the presence and absence of plasma indicates that nitration and presumably oxidn. is inhibited by plasma antioxidants. The presence of nitrotyrosine in LDL is consistent with previous reports implicating peroxynitrite in the oxidative modification of lipoproteins and the presence of a low concn. of **oxidized LDL** in the blood.

ST nitrotyrosine protein plasma detd ELISA

IT Blood analysis

RL: ANT (Analyte); ANST (Analytical study)
(3-Nitrotyrosine in proteins of human plasma detd. by ELISA method)

L3 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2001 ACS
AN 1997:115499 CAPLUS
DN 126:142448
TI Platelet integrin .alpha.IIb.beta.3 (GPIIb-IIIa) is not implicated in the binding of LDL to intact resting platelets
AU Pedreno, Javier; Fernandez, Rosa; Cullare, Cristina; Barcelo, Antonia; Elorza, Miguel Angel; De Castellarnau, Conxita
CS Department of Biochemistry, Hospital Universitario Son Dureta, Palma de Mallorca, Spain
SO Arterioscler., Thromb., Vasc. Biol. (1997), 17(1), 156-163
CODEN: ATVBFA; ISSN: 1079-5642
PB American Heart Association
DT Journal
LA English
CC 13-5 (Mammalian Biochemistry)
AB It has been suggested that the **fibrinogen** receptor (glycoprotein IIb-IIIa or platelet integrin .alpha.IIb.beta.3) could be the binding site for low-d. lipoprotein (LDL); however, recent data do not support this. Furthermore, GPIIb and not the GPIIb-IIIa complex is the main binding protein for lipoprotein(a) [Lp(a)]. In the present study, the interaction between Lp(a) particles and platelet LDL binding sites and the role of platelet integrin .alpha.IIb.beta.3 were investigated. Displacement expts. showed that 125I-LDL binding to intact resting platelets was inhibited with the same apparent affinity by both unlabeled LDL and apolipoprotein(a)-free lipoprotein particles Lp(a)- [an LDL-like particle prepd. from Lp(a)]. Hill coeffs. for displacement curves suggested that a single set of binding sites was involved. In contrast, both native and oxidized Lp(a) particles were unable to inhibit platelet LDL binding. Furthermore, platelets bound 125I-Lp(a)- particles to a class of saturable binding sites numbering approx. 1958.+-.235 binding sites per platelet with a dissocn. const. (Kd) of 48.3.+-.12.times.10-9 mol/L. These values were similar to those obtained for LDL. In contrast to Lp(a), evidence indicates that platelet integrin .alpha.IIb.beta.3 was not involved in the interaction of LDL and intact resting platelets. First, specific ligands for platelet integrin .alpha.IIb.beta.3, such as **fibrinogen**, vitronectin, and fibronectin, were unable to inhibit the binding of LDL to intact resting platelets. Second, similar LDL binding characteristics (Kd and Bmax values) were found in platelets from control subjects and patients with type I and type II Glanzmann's thrombasthenia, characterized by total and partial lack of GPIIb-IIIa and **fibrinogen**, resp. Third, polyclonal **antibodies** against the GPIIb-IIIa complex (edu-3 and 5B12), human antiserums against platelet alloantigens (anti-Baka/B and anti-PLA1/2), anti-integrin subunits (anti-.alpha.v and anti-.beta.3), and a wide panel of monoclonal **antibodies** against well-known epitopes of GPIIb (M3, M4, M5, M6, and M95-2b) and GPIIIa (P23-7, P33, P37, P40, and P97) did not affect platelet LDL binding. Finally, in contrast to the proaggregatory effect of native and **oxidized LDL**, both native and oxidized Lp(a) particles caused a significant dose-dependent decrease of collagen-induced platelet aggregation. In conclusion, It is demonstrated that neither the GPIIb-IIIa complex nor GPIIb and GPIIIa individually are membrane binding proteins for LDL on intact resting platelets. Lp(a) particles do not interact with platelet LDL binding sites, and their biol. response is clearly different from that of LDL.
ST platelet LDL binding integrin glycoprotein
IT Glycoproteins (specific proteins and subclasses)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(IIb/IIIa; platelet integrin .alpha.IIb.beta.3 (GPIIb-IIIa) is not implicated in binding of LDL to intact resting platelets)
IT Platelet (blood)
(platelet integrin .alpha.IIb.beta.3 (GPIIb-IIIa) is not implicated in binding of LDL to intact resting platelets)
IT Low-density lipoproteins
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(platelet integrin .alpha.IIb.beta.3 (GPIIb-IIIa) is not implicated in binding of LDL to intact resting platelets)
IT Integrin .alpha.IIb.beta.3
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(platelet integrin .alpha.IIb.beta.3 (GPIIb-IIIa) is not implicated in

FS 006 Internal Medicine
018 Cardiovascular Diseases and Cardiovascular Surgery
030 Pharmacology
037 Drug Literature Index
LA English
SL English
AB We measured and compared levels of platelet-derived microparticles (PMPs), monocyte-derived microparticles (MMPs), CD62P on activated platelets, soluble E-selectin (sE-selectin), and antioxidized low density lipoprotein (LDL) **antibody** in hyperlipidemia patients and control subjects. Binding of anti-GPIIb/IIIa and anti-GPIb monoclonal **antibodies** to platelets was not significantly different between hyperlipidemia patients and controls. However, expression of CD62P on platelets and levels of PMPs were higher for hyperlipidemia patients than in controls, although the difference between groups in CD62P expression was not significant (PMPs: 534 .+-. 63 vs. 388 .+-. 47, $p < 0.05$; CD62P: 9.1% .+-. 1.45 vs. 7.3% .+-. 1.15, N.S.). Although there were no differences in expression of CD36 and CD40 by monocytes between the two groups, levels of MMPs were higher in hyperlipidemia patients than in controls (MMPs: 147 .+-. 21 vs. 59 .+-. 8, respectively, $p < 0.01$). Levels of anti-**oxidized LDL antibody** and sE-selectin were also higher in hyperlipidemia patients. We studied the effects of Saiko-ka-ryukotsu-borei-to on levels of these factors in patients with elevated triglyceride levels. After Saiko-ka-ryukotsu-borei-to treatment, levels of CD62P, PMPs, sE-selectin, and anti-**oxidized LDL antibody** were reduced significantly. Levels of triglycerides, total cholesterol and MMPs also decreased, but the changes were not significant. These findings suggest that Saiko-ka-ryukotsu-borei-to prevents the development of vascular complications in hyperlipidemia patients.
CT Medical Descriptors:
*hyperlipidemia: DT, drug therapy
drug effect
measurement
antigen binding
protein expression
triacylglycerol blood level
cholesterol blood level
vascular disease: CO, complication
vascular disease: DT, drug therapy
vascular disease: PC, prevention
monocyte
thrombocyte activation
human
male
female
clinical article
controlled study
aged
adult
article
priority journal
Drug Descriptors:
*saiko ka ryukotsu borei to: DT, drug therapy
*saiko ka ryukotsu borei to: PD, pharmacology
endothelial leukocyte adhesion molecule 1
monoclonal antibody
fibrinogen receptor: EC, endogenous compound
PADGEM protein: EC, endogenous compound
oxidized low density lipoprotein: EC, endogenous compound
protein antibody: EC, endogenous compound
oxidized low density lipoprotein antibody: EC, endogenous compound
CD36 antigen: EC, endogenous compound
CD40 antigen: EC, endogenous compound
triacylglycerol: EC, endogenous compound
cholesterol: EC, endogenous compound
glycoprotein Ib: EC, endogenous compound
unclassified drug
RN (endothelial leukocyte adhesion molecule 1) 128875-25-2; (cholesterol) 57-88-5

L3 ANSWER 12 OF 22 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.

However, the clinical significance of these **antibodies** is hampered by their frequent presence also in healthy controls. Aim of this work has been to characterize the immune reactivity against MDA-derived antigens in healthy subjects. The sera of 120 healthy subjects contained IgG and IgM targeting MDA-modified human albumin (HSA), **fibrinogen**, and LDL. These sera also displayed weak reactivity with **oxidized LDL** and HSA complexed with oxidized arachidonic acid. Conversely, oxidized HSA or HSA complexed with other aldehydic lipid peroxidation products was not recognized. Control sera also did not recognize cyclic dihydropyridine-MDA products, while HSA-MDA reactivity was associated ($r > 0.9$; $p < .0005$) with the presence of fluorescent lysine-conjugated-imine cross-links. In Western blots both IgG and IgM recognized high molecular weight HSA-MDA aggregates, but not monomeric HSA-MDA adducts. The addition of sodium cyanoborohydride, that prevented conjugated-imine fluorescence and protein aggregation during HSA-MDA preparation, abolished the **antibody** binding. This suggested that the plasma of healthy subjects contained IgG and IgM recognizing protein aggregates linked through 1-amino-3-imino-propene bridges. The function of these **antibodies** is at the moment unknown, but they might contribute to scavenging MDA cross-linked proteins. .COPYRGT. 2001 Elsevier Science Inc.

CT Medical Descriptors:
*antigen recognition
oxidative stress
immunoreactivity
lipid peroxidation
molecular weight
antigen binding
Western blotting
protein aggregation
oxidation
correlation function
antigenicity
concentration response
adsorption
cross linking
protein modification
human
male
female
normal human
controlled study
adult
article
priority journal
Drug Descriptors:
*malonaldehyde
***protein antibody: EC, endogenous compound**
*malonaldehyde modified protein: EC, endogenous compound
***malonaldehyde modified protein antibody: EC, endogenous compound**
*protein: EC, endogenous compound
immunoglobulin A: EC, endogenous compound
immunoglobulin M: EC, endogenous compound
immunoglobulin G: EC, endogenous compound
human serum albumin
fibrinogen
low density lipoprotein
arachidonic acid
cyanoborohydride sodium
reducing agent
apolipoprotein B
free radical
antigen: EC, endogenous compound
cyclic dihydropyridine: EC, endogenous compound
unclassified drug

RN (malonaldehyde) 542-78-9; (protein) 67254-75-5; (immunoglobulin M) 9007-85-6; (immunoglobulin G) 97794-27-9; (human serum albumin) 9048-49-1; (**fibrinogen**) 9001-32-5; (arachidonic acid) 506-32-1, 6610-25-9, 7771-44-0; (cyanoborohydride sodium) 25895-60-7, 33195-00-5

L3 ANSWER 13 OF 22 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.

AN 2000095337 EMBASE

TI Long-term effects of dietary .alpha.-linolenic acid from perilla oil on

dietary .alpha.-linolenic acid (ALA, 18:3n-3) have not yet been established under controlled conditions. We tested whether a moderate increase of dietary ALA affects fatty acids composition in serum and the risk factors of CHD. **Oxidized LDL** (OxLDL) was directly measured by ELISA using **antibody** specific to OxLDL. By merely replacing soybean cooking oil (SO) with perilla oil (PO) (i.e., increasing 3 g/d of ALA), the n-6/n-3 ratio in the diet was changed from 4:1 to 1:1. Twenty Japanese elderly subjects were initially given a SO diet for at least 6 mo (baseline period), a PO diet for 10 mo (intervention period), and then returned to the previous SO diet (washout period). ALA in the total serum lipid increased from 0.8 to 1.6% after 3 mo on the PO diet, but EPA and DHA increased in a later time, at 10 mo after the PO diet, from 2.5 to 3.6% and 5.3 to 6.4%, respectively ($p < 0.05$), and then returned to baseline in the washout period. In spite of increases of serum n-3 fatty acids, the OxLDL concentration did not change significantly when given the PO diet. Body weight, total serum cholesterol, triacylglycerol, glucose, insulin and HbA1c concentrations, platelet count and aggregation function, prothrombin time, partial thromboplastin time, **fibrinogen** and PAI-1 concentration, and other routine blood analysis did not change significantly when given the PO diet. These data indicate that, even in elderly subjects, a 3 g/d increase of dietary ALA could increase serum EPA and DHA in 10 mo without any major adverse effects.

CT Medical Descriptors:
*lipid composition
*dietary intake
*ischemic heart disease
cardiovascular risk
Japan
lipid blood level
fatty acid blood level
lipid analysis
human
male
female
human experiment
normal human
aged
adult
article
Drug Descriptors:
*linoleic acid
*perilla oil
*oxidized low density lipoprotein
*lipid
*fatty acid
palmitic acid
stearic acid
oleic acid

RN (linoleic acid) 1509-85-9, 2197-37-7, 60-33-3, 822-17-3; (lipid) 66455-18-3; (palmitic acid) 57-10-3; (stearic acid) 57-11-4, 646-29-7; (oleic acid) 112-80-1, 115-06-0

L3 ANSWER 14 OF 22 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.
AN 2000063476 EMBASE
TI Homocysteine and oxidized low density lipoprotein enhance platelet adhesion to endothelial cells under flow conditions: Distinct mechanisms of thrombogenic modulation.
AU Dardik R.; Varon D.; Tamarin I.; Zivelin A.; Salomon O.; Shenkman B.; Savion N.
CS Dr. R. Dardik, National Hemophilia Center, Sheba Medical Center, Tel Hashomer 52621, Israel
SO Thrombosis and Haemostasis, (2000) 83/2 (338-344).
Refs: 30
ISSN: 0340-6245 CODEN: THHADQ
CY Germany
DT Journal; Article
FS 025 Hematology
037 Drug Literature Index
LA English
SL English
AB We investigated the effects of two well established risk factors for

antibody. The enhancing effect of homocysteine was also greatly reduced by inhibition of the EC .alpha.(v).beta.3 integrin, but was not affected by blockade of EC ICAM-1. On the other hand, **ox-LDL**-induced enhancement in platelet - EC adhesion was greatly inhibited by blocking ICAM-1 or .alpha.(v).beta.3, but remained unaffected by inhibition of TF activity. Preincubation of platelets with the glycoprotein IIb-IIIa (GPIIb-IIIa) antagonist Reo-Pro has virtually abolished the enhancing effect of both homocysteine and **ox-LDL**. Our results suggest that homocysteine and **ox-LDL** might increase endothelial thrombogenicity by distinct mechanisms: homocysteine - by inducing TF activity, and **ox-LDL** - by upregulating ICAM-1, both of which enhance GPIIb-IIIa/**fibrinogen** dependent platelet adhesion to EC. The .alpha.(v).beta.3 integrin, although not affected by EC stimulation, seems to play a crucial role in platelet-EC interaction regardless of the mechanism of EC perturbation.

CT Medical Descriptors:
*blood flow
*endothelium cell
*thrombocyte adhesion
*thrombogenesis
cardiovascular disease: ET, etiology
risk factor
shear rate
thrombocyte activation
thrombogenicity: ET, etiology
human
controlled study
human cell
article
priority journal
Drug Descriptors:
*homocysteine
*oxidized low density lipoprotein
abciximab: DV, drug development
fibrinogen receptor: EC, endogenous compound
fibrinogen: EC, endogenous compound
fibrin: EC, endogenous compound
integrin: EC, endogenous compound
intercellular adhesion molecule 1: EC, endogenous compound
polyclonal antibody
thromboplastin: EC, endogenous compound

RN (homocysteine) 454-28-4, 6027-13-0; (abciximab) 143653-53-6; (**fibrinogen**) 9001-32-5; (fibrin) 9001-31-4; (intercellular adhesion molecule 1) 126547-89-5; (thromboplastin) 9035-58-9

CN Reopro

L3 ANSWER 15 OF 22 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.

AN 1999372263 EMBASE

TI Oxidized low-density lipoprotein inhibits the binding of monoclonal **antibody** to platelet glycoprotein IIB-IIIA.

AU Szuwart T.; Zhao B.; Fritsch A.; Mertens K.; Dierichs R.

CS Dr. R. Dierichs, Platelet Research Unit, Institute of Anatomy, Vesaliusweg 2-4, D-48149 Munster, Germany. dierich@uni-muenster.de

SO Thrombosis Research, (1999) 96/2 (85-90).
Refs: 31
ISSN: 0049-3848 CODEN: THBRAA

PUI S 0049-3848(99)00088-2

CY United Kingdom

DT Journal; Article

FS 018 Cardiovascular Diseases and Cardiovascular Surgery
025 Hematology
029 Clinical Biochemistry
030 Pharmacology
037 Drug Literature Index
005 General Pathology and Pathological Anatomy

LA English

SL English

AB Previous studies have shown that oxidized low-density lipoprotein (LDL) induces platelet activation more effectively than native LDL. To achieve a better understanding of the mechanism underlying the activation of human platelets by **oxidized LDL**, the present study relates

*atherogenesis: ET, etiology
ultrastructure
electrophoresis
drug distribution
human
controlled study
human cell
article
priority journal
Drug Descriptors:
*oxidized low density lipoprotein: PD, pharmacology
*oxidized low density lipoprotein: EC, endogenous compound
***monoclonal antibody: PD, pharmacology**
***monoclonal antibody: PK, pharmacokinetics**
***fibrinogen receptor: PD, pharmacology**

L3 ANSWER 16 OF 22 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.
AN 1998079320 EMBASE
TI 3-Nitrotyrosine in the proteins of human plasma determined by an ELISA method.
AU Khan J.; Brennan D.M.; Bradley N.; Gao B.; Bruckdorfer R.; Jacobs M.
CS M. Jacobs, Department of Pharmacology, Royal Free Hospital, School of Medicine, Rowland Hill Street, London NW3 2PF, United Kingdom
SO Biochemical Journal, (1 Mar 1998) 330/2 (795-801).
Refs: 31
ISSN: 0264-6021 CODEN: BIJOAK
CY United Kingdom
DT Journal; Article
FS 029 Clinical Biochemistry
LA English
SL English
AB The modification of tyrosine residues in proteins to 3-nitrotyrosine by peroxynitrite or other potential nitrating agents has been detected in biological systems that are subject to oxidative stress. A convenient semi-quantitative method has been developed to assay nitrated proteins in biological fluids and homogenates using a competitive ELISA developed in our laboratory. This assay selectivity detected 3-nitro-L-tyrosine residues in a variety of peroxynitrite-treated proteins (BSA, human serum albumin (HSA), .alpha.1-antiprotease inhibitor, pepsinogen and **fibrinogen**) and also in a nitrated peptide, but had a low affinity for free 3-nitro-L-tyrosine and 3-chloro-L-tyrosine. The IC50 values for the inhibition of **antibody** binding by different nitrated proteins were in the range 5-100 nM, suggesting that the **antibody** discriminated between nitrotyrosine residues in different environments. The presence of nitrotyrosine in plasma proteins was detected by Western blot analysis and quantified by the ELISA. A concentration of 0.12 .+-. 0.01 .mu.M nitro-BSA equivalents was measured in the proteins of normal plasma which was increased in peroxynitrite-treated plasma and was elevated in inflammatory conditions. HSA and low-density lipoprotein (LDL) isolated from plasma contained 0.085 .+-. 0.04 and 0.03 .+-. 0.006 nmol nitro-BSA equivalents/mg protein, respectively. Comparison of the level of nitration in peroxynitrite-treated HSA and LDL in the presence and absence of plasma indicates that nitration and presumably oxidation is inhibited by plasma antioxidants. The presence of nitrotyrosine in LDL is consistent with previous reports implicating peroxynitrite in the oxidative modification of lipoproteins and the presence of a low concentration of **oxidized LDL** in the blood.
CT Medical Descriptors:
*enzyme linked immunosorbent assay
amino acid analysis
protein determination
antigen binding
immunoblotting
inflammation
lipoprotein blood level
nitration
protein blood level
human
normal human
adult
article
priority journal

TI Platelet integrin .alpha.(IIb).beta.3 (GPIIb-IIIa) is not implicated in the binding of LDL to intact resting platelets.

AU Pedreno J.; Fernandez R.; Cullare C.; Barcelo A.; Elorza M.A.; De Castellarnau C.

CS Dr. J. Pedreno, FIC (Pabellon Cardiologia), Hospital de la Santa Creu i Sant Pau, Avenida San Antonio Maria Claret 167, 08025 Barcelona, Spain

SO Arteriosclerosis, Thrombosis, and Vascular Biology, (1997) 17/1 (156-163).
Refs: 47
ISSN: 1079-5642 CODEN: ATVBFA

CY United States

DT Journal; Article

FS 029 Clinical Biochemistry

LA English

SL English

AB It has been suggested that the **fibrinogen** receptor (glycoprotein [GP] IIb-IIIa or platelet integrin .alpha.(IIb).beta.3) could be the binding site for low- density lipoprotein (LDL); however, recent data do not support this. Furthermore, GPIIb and not the GPIIb-IIIa complex is the main binding protein for lipoprotein(a) [Lp(a)]. In the present study, we have investigated the interaction between Lp(a) particles and platelet LDL binding sites and whether platelet integrin .alpha.(IIb).beta.3 is implicated. Displacement experiments showed that 125I-LDL binding to intact resting platelets was inhibited with the same apparent affinity by both unlabeled LDL and apolipoprotein(a)- free lipoprotein particles [Lp(a)], an LDL-like particle prepared from Lp(a)]. Hill coefficients for displacement curves suggested that a single set of binding sites was involved. In contrast, both native and oxidized Lp(a) particles were unable to inhibit platelet LDL binding. Furthermore, platelets bound 125I-Lp(a)- particles to a class of saturable binding sites numbering approximately 1958.+-.235 binding sites per platelet with a dissociation constant (K(d) of 48.3.+-.12 x 10-9 mol/L. These values were similar to those obtained for LDL. In contrast to Lp(a), evidence indicates that platelet integrin .alpha.(IIb).beta.3 was not involved in the interaction of LDL and intact resting platelets. First, specific ligands for platelet integrin .alpha.(IIb).beta.3, such as **fibrinogen**, vitronectin, and fibronectin, were unable to inhibit the binding of LDL to intact resting platelets. Second, similar LDL binding characteristics (K(d) and B(max) values) were found in platelets from control subjects and patients with type I and type II Glanzmann's thrombasthenia, characterized by total and partial lack of GPIIb-IIIa and **fibrinogen**, respectively. Third, polyclonal **antibodies** against the GPIIb- IIIa complex (edu-3 and 5B12), human antiserums against platelet alloantigens (anti-Bak(a/B) and anti-PL(A1/2), anti-integrin subunits (anti-.alpha.)(v) and anti-.beta.3, and a wide panel of monoclonal **antibodies** (mAbs) against well- known epitopes of GPIIb (M3, M4, M5, M6, and M95-2b) and GPIIIa (P23-7, P33, P37, P40 and P97) did not affect platelet LDL binding. Finally, in contrast to the proaggregatory effect of native and **oxidized LDL**, both native and oxidized Lp(a) particles caused a significant dose-dependent decrease of collagen-induced platelet aggregation. In conclusion, we demonstrate that neither the GPIIb-IIIa complex nor GPIIb and GPIIIa individually are membrane binding proteins for LDL on intact resting platelets. Lp(a) particles do not interact with platelet LDL binding sites, and their biological response is clearly different from that of LDL.

CT Medical Descriptors:
*cell adhesion
*thrombocyte
article
binding affinity
binding site
dissociation constant
glanzmann disease
human
human cell
ligand binding
membrane binding
priority journal
thrombocyte aggregation
Drug Descriptors:
***fibrinogen receptor**
*integrin
*lipoprotein a

SO FREE RADICAL BIOLOGY AND MEDICINE, (2001 Feb 1) 30 (3) 277-86.
Journal code: FRE; 8709159. ISSN: 0891-5849.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200104
ED Entered STN: 20010502
Last Updated on STN: 20010502
Entered PubMed: 20010222
Entered Medline: 20010426
AB **Antibodies** against malondialdehyde (MDA)-modified proteins are often increased in patients with diseases related to oxidative stress. However, the clinical significance of these **antibodies** is hampered by their frequent presence also in healthy controls. Aim of this work has been to characterize the immune reactivity against MDA-derived antigens in healthy subjects. The sera of 120 healthy subjects contained IgG and IgM targeting MDA-modified human albumin (HSA), **fibrinogen**, and LDL. These sera also displayed weak reactivity with **oxidized LDL** and HSA complexed with oxidized arachidonic acid. Conversely, oxidized HSA or HSA complexed with other aldehydic lipid peroxidation products was not recognized. Control sera also did not recognize cyclic dihydropyridine-MDA products, while HSA-MDA reactivity was associated ($r > 0.9$; $p < .0005$) with the presence of fluorescent lysine-conjugated-imine cross-links. In Western blots both IgG and IgM recognized high molecular weight HSA-MDA aggregates, but not monomeric HSA-MDA adducts. The addition of sodium cyanoborohydride, that prevented conjugated-imine fluorescence and protein aggregation during HSA-MDA preparation, abolished the **antibody** binding. This suggested that the plasma of healthy subjects contained IgG and IgM recognizing protein aggregates linked through 1-amino-3-imino-propene bridges. The function of these **antibodies** is at the moment unknown, but they might contribute to scavenging MDA cross-linked proteins.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adult
Arachidonic Acid: CH, chemistry
Arachidonic Acid: IM, immunology
*Autoantibodies: BL, blood
Autoantigens: IM, immunology
*Blood Proteins: CH, chemistry
*Blood Proteins: IM, immunology
Blotting, Western
Fibrinogen: CH, chemistry
Fibrinogen: IM, immunology
IgG: BL, blood
IgM: BL, blood
Lipoproteins, LDL: CH, chemistry
Lipoproteins, LDL: IM, immunology
*Malondialdehyde: CH, chemistry
*Malondialdehyde: IM, immunology
Middle Age
Serum Albumin: CH, chemistry
Serum Albumin: IM, immunology
RN 506-32-1 (Arachidonic Acid); 542-78-9 (Malondialdehyde); **9001-32-5 (Fibrinogen)**
CN 0 (Autoantibodies); 0 (Autoantigens); 0 (Blood Proteins); 0 (IgG); 0 (IgM); 0 (Lipoproteins, LDL); 0 (Serum Albumin); 0 (oxidized low density lipoprotein)

L3 ANSWER 19 OF 22 MEDLINE
AN 2000202003 MEDLINE
DN 20202003 PubMed ID: 10739396
TI Homocysteine and oxidized low density lipoprotein enhanced platelet adhesion to endothelial cells under flow conditions: distinct mechanisms of thrombogenic modulation.
AU Dardik R; Varon D; Tamarin I; Zivelin A; Salomon O; Shenkman B; Savion N
CS National Hemophilla Center and Institute of Thrombosis and Hemostasis, Sheba Medical Center, Tel Hashomer, Israel.
SO THROMBOSIS AND HAEMOSTASIS, (2000 Feb) 83 (2) 338-44.
Journal code: VQ7; 7608063. ISSN: 0340-6245.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)

slightly reduced the expression of the intercellular adhesion molecule I (ICAM-1). In contrast, **ox-LDL** treatment upregulated ICAM-1 expression and had no significant effect on endothelial TF activity. Neither homocysteine nor **Ox-LDL** affected surface expression of the alpha(v)beta3 integrin. The homocysteine-induced enhancement in platelet adhesion was almost completely abolished by blockade of the EC TF activity by a polyclonal **antibody**. The enhancing effect of homocysteine was also greatly reduced by inhibition of the EC alpha(v)beta3 integrin, but was not affected by blockade of EC ICAM-1. On the other hand, **ox-LDL**-induced enhancement in platelet - EC adhesion was greatly inhibited by blocking ICAM-1 or alpha(v)beta3, but remained unaffected by inhibition of TF activity. Preincubation of platelets with the glycoprotein IIb-IIIa (GPIIb-IIIa) antagonist Reo-Pro has virtually abolished the enhancing effect of both homocysteine and **ox-LDL**. Our results suggest that homocysteine and **ox-LDL** might increase endothelial thrombogenicity by distinct mechanisms: homocysteine - by inducing TF activity, and **ox-LDL** - by upregulating ICAM-1, both of which enhance GPIIb-IIIa/**fibrinogen** dependent platelet adhesion to EC. The alpha(v)beta3 integrin, although not affected by EC stimulation, seems to play a crucial role in platelet-EC interaction regardless of the mechanism of EC perturbation.

CT Check Tags: Human; Support, Non-U.S. Gov't
Antibodies: PD, pharmacology
Antibodies, Monoclonal: PD, pharmacology
Calcium: PD, pharmacology
Cell Adhesion Molecules: BI, biosynthesis
Cell Adhesion Molecules: DE, drug effects
Endothelium, Vascular: CH, chemistry
Endothelium, Vascular: CY, cytology
*Endothelium, Vascular: ME, metabolism
Fibrin: BI, biosynthesis
Fibrin: PH, physiology
Fibrinogen: PD, pharmacology
*Homocysteine: PD, pharmacology
Homocysteine: PH, physiology
Immunoglobulins, Fab: PD, pharmacology
Intercellular Adhesion Molecule-1: BI, biosynthesis
Intercellular Adhesion Molecule-1: DE, drug effects
*Lipoproteins, LDL: PD, pharmacology
Lipoproteins, LDL: PH, physiology
Oxidation-Reduction
*Platelet Adhesiveness: DE, drug effects
Platelet Aggregation Inhibitors: PD, pharmacology
Platelet Glycoprotein GPIIb-IIIa Complex: AI, antagonists & inhibitors
Platelet Glycoprotein GPIIb-IIIa Complex: PD, pharmacology
Receptors, Cell Surface: BI, biosynthesis
Receptors, Cell Surface: DE, drug effects
Receptors, Vitronectin: BI, biosynthesis
Receptors, Vitronectin: DE, drug effects
Receptors, Vitronectin: ME, metabolism
Thromboplastin: BI, biosynthesis
Thromboplastin: DE, drug effects
Thromboplastin: IM, immunology
Umbilical Veins: CY, cytology

RN 126547-89-5 (Intercellular Adhesion Molecule-1); 143653-53-6 (abciximab); 454-28-4 (Homocysteine); 7440-70-2 (Calcium); 9001-31-4 (Fibrin); **9001-32-5 (Fibrinogen)**; 9035-58-9 (Thromboplastin)

CN 0 (**Antibodies**); 0 (**Antibodies**, Monoclonal); 0 (Cell Adhesion Molecules); 0 (Immunoglobulins, Fab); 0 (Lipoproteins, LDL); 0 (Platelet Aggregation Inhibitors); 0 (Platelet Glycoprotein GPIIb-IIIa Complex); 0 (Receptors, Cell Surface); 0 (Receptors, Vitronectin); 0 (oxidized low density lipoprotein)

L3 ANSWER 20 OF 22 MEDLINE
AN 2000199490 MEDLINE
DN 20199490 PubMed ID: 10737229
TI Long-term effects of dietary alpha-linolenic acid from perilla oil on serum fatty acids composition and on the risk factors of coronary heart disease in Japanese elderly subjects.
AU Ezaki O; Takahashi M; Shigematsu T; Shimamura K; Kimura J; Ezaki H; Gotoh T

ELISA using **antibody** specific to OxLDL. By merely replacing soybean cooking oil (SO) with perilla oil (PO) (i.e., increasing 3 g/d of ALA), the n-6/n-3 ratio in the diet was changed from 4:1 to 1:1. Twenty Japanese elderly subjects were initially given a SO diet for at least 6 mo (baseline period), a PO diet for 10 mo (intervention period), and then returned to the previous SO diet (washout period). ALA in the total serum lipid increased from 0.8 to 1.6% after 3 mo on the PO diet, but EPA and DHA increased in a later time, at 10 mo after the PO diet, from 2.5 to 3.6% and 5.3 to 6.4%, respectively ($p<0.05$), and then returned to baseline in the washout period. In spite of increases of serum n-3 fatty acids, the OxLDL concentration did not change significantly when given the PO diet. Body weight, total serum cholesterol, triacylglycerol, glucose, insulin and HbA1c concentrations, platelet count and aggregation function, prothrombin time, partial thromboplastin time, **fibrinogen** and PAI-1 concentration, and other routine blood analysis did not change significantly when given the PO diet. These data indicate that, even in elderly subjects, a 3 g/d increase of dietary ALA could increase serum EPA and DHA in 10 mo without any major adverse effects.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Aged
Aged, 80 and over
Cookery
*Coronary Disease: ET, etiology
*Dietary Fats: PD, pharmacology
Enzyme-Linked Immunosorbent Assay
*Fatty Acids: BL, blood
Lipids: BL, blood
Lipoproteins: BL, blood
Lipoproteins, LDL: BL, blood
*Plant Oils: PD, pharmacology
Risk Factors
*alpha-Linolenic Acid: PD, pharmacology

RN 463-40-1 (alpha-Linolenic Acid); 68132-21-8 (perilla seed oil)

CN 0 (Dietary Fats); 0 (Fatty Acids); 0 (Lipids); 0 (Lipoproteins); 0 (Lipoproteins, LDL); 0 (Plant Oils); 0 (oxidized low density lipoprotein)

L3 ANSWER 21 OF 22 MEDLINE

AN 1998149755 MEDLINE

DN 98149755 PubMed ID: 9480893

TI 3-Nitrotyrosine in the proteins of human plasma determined by an ELISA method.

CM Erratum in: Biochem J 1998 Jun 15;332 (Pt 3):808
Erratum in: Brennan DM[corrected to Brennand DM]

AU Khan J; Brennand D M; Bradley N; Gao B; Bruckdorfer R; Jacobs M; Brennan D M

CS Department of Pharmacology, Royal Free Hospital School of Medicine, Rowland Hill Street, London NW3 2PF, U.K.

SO BIOCHEMICAL JOURNAL, (1998 Mar 1) 330 (Pt 2) 795-801.
Journal code: 9YO; 2984726R. ISSN: 0264-6021.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199804

ED Entered STN: 19980422
Last Updated on STN: 19990129
Entered Medline: 19980416

AB The modification of tyrosine residues in proteins to 3-nitrotyrosine by peroxynitrite or other potential nitrating agents has been detected in biological systems that are subject to oxidative stress. A convenient semi-quantitative method has been developed to assay nitrated proteins in biological fluids and homogenates using a competitive ELISA developed in our laboratory. This assay selectivity detected 3-nitro-l-tyrosine residues in a variety of peroxynitrite-treated proteins (BSA, human serum albumin (HSA), alphal-antiprotease inhibitor, pepsinogen and **fibrinogen**) and also in a nitrated peptide, but had a low affinity for free 3-nitro-L-tyrosine and 3-chloro-L-tyrosine. The IC50 values for the inhibition of **antibody** binding by different nitrated proteins were in the range 5-100 nM, suggesting that the **antibody** discriminated between nitrotyrosine residues in different environments. The presence of nitrotyrosine in plasma proteins was detected by Western blot analysis and quantified by the ELISA. A concentration of 0. 12+/-0.01 microM nitro-BSA equivalents was measured in the proteins of normal plasma

Serum Albumin: CH, chemistry
*Tyrosine: AA, analogs & derivatives
Tyrosine: AN, analysis
RN 3604-79-3 (3-nitrotyrosine); 55520-40-6 (Tyrosine)
CN 0 (Blood Proteins); 0 (Lipoproteins, LDL); 0 (Serum Albumin)

L3 ANSWER 22 OF 22 MEDLINE
AN 97164889 MEDLINE
DN 97164889 PubMed ID: 9012651
TI Platelet integrin alpha IIb beta 3 (GPIIb-IIIa) is not implicated in the binding of LDL to intact resting platelets.
AU Pedreno J; Fernandez R; Cullare C; Barcelo A; Elorza M A; de Castellarnau C
CS Department of Biochemistry, Hospital Universitario Son Dureta, Palma de Mallorca, Spain.
SO ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY, (1997 Jan) 17 (1) 156-63.
Journal code: B89; 9505803. ISSN: 1079-5642.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199702
ED Entered STN: 19970306
Last Updated on STN: 19970306
Entered Medline: 19970225
AB It has been suggested that the **fibrinogen** receptor (glycoprotein [GP] IIb-IIIa or platelet integrin alpha IIb beta 3) could be the binding site for low-density lipoprotein (LDL); however, recent data do not support this. Furthermore, GPIIb and not the GPIIb-IIIa complex is the main binding protein for lipoprotein(a) [Lp(a)]. In the present study, we have investigated the interaction between Lp(a) particles and platelet LDL binding sites and whether platelet integrin alpha IIb beta 3 is implicated. Displacement experiments showed that 125I-LDL binding to intact resting platelets was inhibited with the same apparent affinity by both unlabeled LDL and apolipoprotein(a)-free lipoprotein particles [Lp(a)-, an LDL-like particle prepared from Lp(a)]. Hill coefficients for displacement curves suggested that a single set of binding sites was involved. In contrast, both native and oxidized Lp(a) particles were unable to inhibit platelet LDL binding. Furthermore, platelets bound 125I-Lp(a)- particles to a class of saturable binding sites numbering approximately 1958 +/- 235 binding sites per platelet with a dissociation constant (Kd) of 48.3 +/- 12 x 10(-9) mol/L. These values were similar to those obtained for LDL. In contrast to Lp(a), evidence indicates that platelet integrin alpha IIb beta 3 was not involved in the interaction of LDL and intact resting platelets. First, specific ligands for platelet integrin alpha IIb beta 3, such as **fibrinogen**, vitronectin, and fibronectin, were unable to inhibit the binding of LDL to intact resting platelets. Second, similar LDL binding characteristics (Kd and Bmax values) were found in platelets from control subjects and patients with type I and type II Glanzmann's thrombasthenia, characterized by total and partial lack of GPIIb-IIIa and **fibrinogen**, respectively. Third, polyclonal **antibodies** against the GPIIb-IIIa complex (edu-3 and 5B12), human antiserums against platelet alloantigens (anti-Baka/B and anti-PLA1/2), anti-integrin subunits (anti-alpha v and anti-beta 3), and a wide panel of monoclonal **antibodies** (mAbs) against well-known epitopes of GPIIb (M3, M4, M5, M6, and M95-2b) and GPIIIa (P23-7, P33, P37, P40, and P97) did not affect platelet LDL binding. Finally, in contrast to the proaggregatory effect of native and **oxidized LDL**, both native and oxidized Lp(a) particles caused a significant dose-dependent decrease of collagen-induced platelet aggregation. In conclusion, we demonstrate that neither the GPIIb-IIIa complex nor GPIIb and GPIIIa individually are membrane binding proteins for LDL on intact resting platelets. Lp(a) particles do not interact with platelet LDL binding sites, and their biological response is clearly different from that of LDL.
CT Check Tags: Human; Support, Non-U.S. Gov't
Binding Sites
*Blood Platelets: ME, metabolism
*Lipoproteins, LDL: ME, metabolism
*Platelet Glycoprotein GPIIb-IIIa Complex: ME, metabolism
Radioligand Assay
CN 0 (Lipoproteins, LDL); 0 (Platelet Glycoprotein GPIIb-IIIa Complex)